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(54) Title: COMPOSITIONS FOR CLEANING SOILED ANIMALS AND METHOD OF USE (57) Abstract A washing agent comprising (a) 1-10% washing and foaming agent; (b) 5-50% wetting agent; (c) 0-25% water-miscible solvent; and (d) the balance consisting of water and optional additives. The use of said agent for cleaning animals soiled by chemical compounds, especially hydrocarbons is also disclosed.		

COMPOSITIONS FOR THE CLEANING OF SOILED ANIMALS AND METHOD OF USE

The present invention has as its subject compositions for the cleaning of soiled animals. In particular, it relates to compositions for cleaning the fur, plumage, etc. of animals that have been soiled by chemical products, particularly hydrocarbons. The present invention also has as its subject a method for using these compositions.

At the present time, hydrocarbons are transported particularly by sea, in suitable ships. The costs of transportation as well as the lengths of the passages have caused the shippers to use high-tonnage ships, of more than 100,000 tons, or even more than 300,000 tons. These oil tankers are currently designated as "supertankers." Unfortunately, because of their size, they are poorly maneuverable. Also, during storms and when damage to the rudder, engine, etc., occur, they are difficult to tow. Towing is sometimes impossible when the meteorological conditions are particularly unfavorable. If the oil tanker or supertanker is near a coast, there is a risk that it will run aground. Collisions against rocks then cause fissures in the hulls, or even the complete rupture of the ship, which breaks up. The hydrocarbons spill into the sea and on to the coasts. This phenomenon, a major catastrophe, is known by the name "black tide." Notorious examples are those of the Amoco Cadiz and, more recently, the Exxon Valdez.

During a black tide, the fauna and flora pay a heavy price. Thus, the black tide caused by the Exxon Valdez in 1989 killed thousands of marine mammals and more than 250,000 birds. The birds and marine mammals are a specific target in the ecosystem destroyed by a black tide. Hydrocarbons, especially petroleum, settle on their plumage and fur, paralyzing these animals when the petroleum covers them almost completely. But above all, the petroleum blocks the natural mechanisms, necessary to the well-being of the animals, which take place at the interface constituted by the fur or plumage. In the specific case of the birds, under the influence of the hydrocarbons, the feathers form a mat, which destroys the microstructures that capture the air used for insulation, required for the well-being of the birds. Over a period of several hours and days, the incapacity to contain the heat leads to hypothermia, malnutrition and dehydration. In addition, the absorption of hydrocarbons at the level of the dermis of the animals produces poisoning. Moreover, the animals, naturally wishing to rid themselves of the oils or hydrocarbons that soil them, have a tendency to clean themselves. Thus during their grooming these animals ingest hydrocarbons, which also cause poisoning. This reversal of the metabolism of the birds, both at the level of their plumage or fur and at the level of food, causes their death. Obviously, rapid cleaning to eliminate the hydrocarbons is extremely important for the rehabilitation of the animals, although this is only the first step.

The different stages of cleaning are: capture of the animal; transportation to the treatment site; observation at the clinic where the first emergency care is given; food; anti-stress treatment; the actual cleaning by washing in successive baths of appropriate products; rinsing; drying, and release as soon as possible. Throughout these stages, the animal is observed so as to decide on the continuation of the treatment, or euthanasia in the case where the state of the said animal is judged to be too critical.

Many efforts have been made in recent years to furnish compositions that permit washing and cleaning and that are efficacious and harmless to animals, especially birds. Several products have been proposed, for example: conventional detergents, such as Teepol® (marketed by the Temama France company, Puteaux, FR); PCL®; sawdust powder; corn starch; mineral oils; organic solvents; tank-cleaning agents, etc. J. Haggin in Science and Technology reports the use of shampoos and dish-washing detergents. These products are described as having good foaming power but poor capacity to remove oil or hydrocarbons. In fact, it has not been possible under natural conditions outside to reproduce the promising results obtained in the laboratory. B. Jenssen and M. Ekker, in Marine Pollution Bulletin, vol. 20, pp. 509-

512, 1989, describe the action and properties of four cleaning agents, conventional detergents. The products tested were Zalo (A/S DeNoFa og Lilleborg Fabriker, Oslo, NO); Taski-Profi (Sutler AG Munchweilen, CH); and OB-5 and OB-7 (Bentelsen, Blommenhalen, NO). Among these, the authors report that the Taski-Profi has the best efficacy, for a cleaning time of 10 to 13 minutes. Recently, several authors have studied the effects of a powerful detergent, Teepol, and have unfortunately observed that while it is powerful, it is also extremely aggressive for animals such as birds and for the handler who does the cleaning.

The problems mentioned above are encountered in other instances than black tides. Similar problems are posed during hydrocarbon spills of all kinds, accidental or intentional, such as cleaning the tanks of an oil tanker at sea, commonly called degassing. Moreover, aquatic environments of all kinds are involved, the marine environment as well as rivers and streams, canals etc. In addition, oils or hydrocarbons are not the only substances that pose problems of pollution and damage to the natural environment; any spill of a toxic chemical product poses comparable problems. Thus, the problems posed by black tides are found in all types of spills of a chemical agent with toxicity to certain animal species. The solutions provided thus apply to all these instances.

There thus exists a need for a washing agent that is efficacious, is short-acting, non-toxic and of course low in cost. The invention achieves this and other objectives.

Thus, the present invention provides a washing agent comprising, based on the total weight of the agent:

- (a) from 1 to 10% of a foaming washing agent;
- (b) from 5 to 50% of a wetting agent;
- (c) from 0 to 25% of a water-miscible solvent;
- (d) the balance being constituted of water and, possibly, additives.

The foaming washing agent used is constituted of detergents or surface active agents, or surfactants, normally used for this purpose. This foaming washing agent is in fact what is also called in technical terms a "shampoo" and in the present description the terms foaming washing agent, shampoo and shampoo base will be used interchangeably. Traditional shampoo bases are described in Encyclopedia of Shampoo Ingredients, Anthony Hunting, Micelle Press Inc.

This shampoo base is thus constituted of conventional surfactants.

Within the framework of the present invention, a preferred foaming washing agent is constituted of:

- (a) 60 to 95% by weight of an anionic surfactant; and
- (b) 40 to 5% by weight of an amphoteric surfactant.

The anionic surfactant used is any anionic surfactant commonly known by one skilled in the art. Cited as examples are the following families: alkyl(ether)sulfates of an alkali or alkaline earth metal or ammonium, in which the alkyl is a long-chain fatty alkyl, for example the ammonium and magnesium lauryl(ether)sulfates; sulfosuccinates; betaines, imidazoles, etc. Preferred anionic surfactants are ammonium lauryl sulfate and magnesium lauryl ether sulfate.

The amphoteric surfactant used is any amphoteric surfactant commonly known by one skilled in the art. Cited as examples are the following families: the betaines, in particular the sulfobetaines; alkylamphodiacetates in which the alkyl is a long chain fatty alkyl such as cocoamphodiacetate. The preferred amphoteric surfactants are sulfobetaine and cocoamphodiacetate.

The wetting agent used is any wetting agent commonly known to one skilled in the art. As an example, a non-exhaustive list of such agents can be found in: Encyclopedia of Shampoo Ingredients, cited above. The preferred wetting agent is a dialkylsulfosuccinate of an alkali or alkaline earth metal or ammonium, advantageously dioctyl sodium sulfosuccinate, abbreviated below as DOSS.

Solvent can be absent from the washing agent. However it is preferred to use it to obtain a solvent action on the chemical substance to be eliminated. The solvent, when it is used, is chosen depending on the chemical substance to be eliminated and is any water-miscible solvent that is a solvent of the chemical substance involved. When it is sought to eliminate hydrocarbons, the solvent is a solvent of fatty substances, in particular oils and hydrocarbons. According to a preferred execution of the invention, the solvent is a water-miscible solvent of fatty substances.

The preferred solvents are the alcohols, such as propylene and ethylene glycol, ethyl alcohol, isopropyl alcohol, etc.

Preferably, the washing agent includes, by weight based on the total weight of the agent:

- (a) from 2 to 5% of a foaming washing agent;
- (b) from 15 to 20% of a wetting agent;
- (c) from 10 to 20% of a water-miscible solvent;
- (d) the balance being constituted of water and, possibly, additives.

According to one method of execution, the washing agent also includes a conditioner in a quantity of 0.1 to 5% by weight relative to the total weight of the agent. This conditioning agent, having a film-forming effect, has as its purpose to restore the hydrophobic character naturally present in the feathers, hair, etc. of animals. In fact, it appears according to the literature (Jenssen and Ekker, 1988) that it is the physical structure of the feather which in part confers on the feather its hydrophobic character. This hydrophobic effect is also obtained, for feathers as well as for hair, by means of a natural secretion product. Following cleaning with a detergent or surfactant, this secretion is reestablished in the days following the cleaning, but at a slow pace. This secretion rhythm is for example of the order of 50 mg/day, while the secretion product is present naturally in a quantity of a few grams. A product is thus sought that has a cleaning action and that would reestablish the hydrophobic character of the plumage or fur of animals so as to put the animal back in satisfactory condition as quickly as possible, the time factor being very important. This aim is achieved by the above-mentioned method of execution of the present invention.

The conditioning agent used is any conditioner commonly known to one skilled in the art.

Within the framework of the present invention, a conditioner is preferred that is composed of:

- (a) 20 to 50% by weight of a cationic polymer; and
- (b) 80 to 50% by weight of a silicone.

The cationic polymer is any commonly used cationic polymer such as a quaternary ammonium polymer, and is preferably a quaternized guar gum.

The silicone used is any commonly used silicone; preferably, it is a silicone gum, which is advantageously in solution in a cyclic silicone oil.

The washing agent can contain in addition all the standard adjuvants. As examples may be cited: pH regulator, thickener, preservative, co-surfactant, perfume, etc.

In particular, the washing agent can include a sequestering or complexing compound. This sequestering agent is advantageously present in a quantity of 0.05 to 1% by weight, relative to the weight of washing agent. A preferred sequestering agent in the framework of the present invention is the tetrasodium salt of ethylenediaminetetraacetic acid (Na₄ EDTA).

The washing agent is concentrated, which makes its handling easier, especially when it is sent to the utilization sites. However, it is preferably used diluted. The water used is fresh water, for lack of sea water.

Thus, the present invention also has its subject aqueous compositions containing, by weight relative to the total weight of the aqueous composition, from 0.1 to 20%, preferably 0.5 to 5% of a washing agent in accordance with the present invention.

The present invention also has as its subject the application of the present washing agent to the cleaning of animals; it thus relates to a procedure for cleaning animals, in particular birds.

Thus, the present invention provides a method for cleaning animals, soiled for example by hydrocarbons, the said method including the following stages:

- a) a washing agent according to the present invention is applied to the animal, possibly in an aqueous composition;
- b) it is left to react for 1 to 60 minutes;
- c) stages a) and b) are repeated if necessary;
- d) the animal is rinsed and if necessary dried.

The washing agent can be applied as such, in which case it can be sprayed on or applied with a brush, etc., to the animal's body. Alternatively, it is diluted into an aqueous composition, as described in the present invention, and then the aqueous composition is applied to the animal.

Preferably, the washing agent is in an aqueous composition, of which it represents from 0.1 to 20% by weight, preferably 0.5 to 5%.

According to a preferred method of execution, during step a) of the method, the composition is applied to the animal by immersion of the animal in the composition, taking care to keep its airways open.

Advantageously, during step b), it is left to act, preferably for 5 to 20 minutes.

Preferably, during step b), the animal is subjected to mechanical action. This mechanical action is constituted of a pressing action on the plumage or the fur, often manual. In the majority of cases, the pressing action is accompanied by a massaging of the animal, in the bath composed of the composition, by the persons responsible for cleaning the animals.

In the course of step c), steps a) and b) are repeated 1 to 4 times, preferably twice.

The concentrations of washing agent in the aqueous compositions used when several immersions are effectuated, can be the same or different. When the concentrations vary, they preferably vary decreasingly.

The cleaning process is not limited to hydrocarbons but is applied similarly to any chemical substance that it is wished to eliminate. The operating conditions are then adapted to this chemical substance.

The operating conditions also include appropriate temperatures. In fact, the efficacy can vary with the temperature; generally, the efficacy is higher for higher temperatures. The physiology of the animal to be cared for will also be taken into account. In fact, to the extent that the hydrocarbons cause hypothermia, the washing bath will be advantageously warm relative to the body temperature of the animal. It will also be taken into account that the cleaning operation is often manual and that the operators must tolerate the cleaning temperatures. Thus, the cleaning temperatures are usually between 10 and 50°C, with a preferred interval of 20 to 45°C. In the case of birds, taking into account their normal body temperature, the bath is advantageously at 40°C.

The present invention also has as its subject a variant of the cleaning process, described above. It has been found, surprisingly, that it is possible to apply the constituent products in the washing agent separately without in any way noting a significant loss in efficacy.

Thus, the present invention provides a method of cleaning animals, soiled for example by hydrocarbons, the said method including the following steps:

- a) a wetting agent is applied to the animal;
- b) it is left to act for 1 to 60 minutes;
- c) a foaming washing agent is applied to the animal;
- d) it is left to act for 1 to 60 minutes;
- e) steps a) to d) are repeated if necessary;
- f) the animal is rinsed and if necessary dried.

By the expression "steps a) to d) are repeated if necessary" it is to be understood that it is in fact possible to repeat steps a) and b) only, or c) and d) only, or a), b), c) and d), or any combination; the application of wetting agent last of all is generally not required.

Preferably, the wetting agent and the shampoo base, i.e. the foaming washing agent, are in for example alcoholic or aqueous compositions.

These agents, or compositions, are preferably applied by immersion of the animal in the compositions, which are allowed to act, during steps b) and d), preferably for 5 to 20 minutes. Advantageously, during steps b) and d), the animal is subjected to mechanical action. The mechanical action is identical to that described previously. Similarly to what was described above, this method is not limited to hydrocarbons but is applied to any chemical contaminant.

The present invention thus provides a washing agent as well as methods for its application.

The washing agent according to the present invention is clearly more efficacious than the agents traditionally used, and moreover it is non-toxic. However, in the case where the animal is not cared for rapidly after the occurrence of the black tide, the hydrocarbons age on the plumage or fur and it then becomes difficult to eliminate them. This difficulty also occurs with very heavy hydrocarbons of high boiling point. A pre-treatment is then effectuated. J. Haggin, Science & Technology, suggests a pretreatment in the form of a treatment aimed at softening the hydrocarbons. For this purpose it is proposed to use methyl oleate as the pre-treatment agent.

The present invention in accordance with another aspect thus provides an efficacious emollient stain-removing agent. Thus, the present invention also has as its subject an emollient stain-removing agent containing, by weight based on the total weight of the agent:

- (a) from 10 to 90% of a fatty acid ester,
- (b) from 90 to 10% of a wetting agent.

This emollient stain-removing agent can also be called a pre-shampoo, or pre-washing agent, and these terms are used interchangeably in the description.

The fatty acid ester used is any ester commonly known to one skilled in the art. Cited as examples may be isopropyl myristate and palmitate, and ethylhexyl cocoate. Within the framework of the present invention, ethylhexyl cocoate is preferred.

The wetting agent is any known agent, as indicated above for the washing agent. Within the framework of the present invention, the preferred wetting agent is a dialkylsulfosuccinate of an alkali or alkaline earth metal or of ammonium, advantageously dioctyl sodium sulfosuccinate, or DOSS, as is the case for the washing agent.

Preferably, the emollient stain-removing agent contains, by weight:

- (a) from 30 to 70% of a fatty acid ester,
- (b) 70 to 30% of a wetting agent.

The emollient agent in fact acts like a stain-remover for fabric. The emollient agent can be applied as such, by standard techniques. It can moreover also be applied without subsequent cleaning by means of a washing agent, whether standard or in accordance with the present invention, although this method of use is not preferred.

The present invention also has as its subject the application of the emollient agent in accordance with the present invention for the softening and/or removal of hydrocarbon patches or concentrates on the plumage or fur of animals.

Thus, the present invention provides a method for softening or removing concentrated sludges of chemical substances, for example hydrocarbons, on animals, comprising the following steps:

- a) the emollient, stain-removing agent according to the present invention is applied to the animal;
- b) it is left to act for at least 5 minutes;
- c) the animal is rinsed;
- d) if necessary, steps a) and b) are repeated;
- e) if necessary, the animal is dried.

According to one method of execution, in the course of step a) of the method, the emollient agent is applied to the animal by spraying. Unlike the washing agent applied diluted in an aqueous composition, the emollient agent is applied pure, although a solution in a suitable solvent is nevertheless to be considered. It is possible to repeat the application of the emollient agent, when the areas with elevated concentrations of hydrocarbons are numerous or when the hydrocarbons are particularly difficult to eliminate.

According to a variant, in this method, it is left to act, during step b), for 5 to 30 minutes. This applies especially to the case where the prewashing is immediately followed by washing, using, for example, the washing agent according to the present invention.

According to another variant, in this method, step b) requires 1 to 5 hours. This applies in the case where a washing phase is not pursued immediately after the pre-washing, or in the case where the animal is covered with chemical substances that are particularly difficult to get off. Thus, after the capture of the animals, they can be put into pens while waiting to be cleaned. The flexibility of use of the pre-washing agent according to the present invention is thus noted.

It is possible to dry the animal if a subsequent cleaning is not anticipated. In the case where the animal is subjected to cleaning, it is of no use to dry it.

The application of the emollient or pre-washing agent is not limited to hydrocarbons or fatty substances but applies to any chemical substance for which an emollient, stain-removing action is useful. The operating conditions are then adapted to the chemical substance to be eliminated.

The present invention also has as its subject a method which includes a first pre-washing step and a second washing step. Thus, the present invention provides a method for cleaning animals, soiled for example by hydrocarbons, the said method including the following steps:

- a) an emollient, stain-removing agent according to the present invention is applied to the animal;
- b) it is left to act for at least 5 minutes;
- c) a washing agent according to the present invention is applied to the animal;
- d) it is left to act for 1 to 60 minutes;
- e) steps a) to d) are repeated if necessary;
- f) the animal is rinsed and if necessary dried.

By the expression "steps a) to d) are repeated if necessary" it will be understood that it is in fact possible to repeat steps a) and b) only, or c) and d) only, or a), b), c) and d), or any combination.

The operating method for this procedure can easily be determined from the operating methods used for the procedures described above. This determination is routine for one skilled in the art.

Although the applicant does not wish to be limited in any way, the present procedures all apply preferably to hydrocarbons.

The invention also has as its subject the use of a washing agent according to the invention for the cleaning of soiled animals, preferably birds soiled by hydrocarbons.

The invention also relates to the use of an emollient, stain-removing agent according to the invention for the removing of concentrated sludges of chemical substances on animals, preferably of hydrocarbon sludges on birds.

The present invention also permits the saving of species such as seals, sea calves, penguins, albatrosses, sea gulls, skuas, gannets, guillemots, petrels, puffins, ducks, tufted ducks, arctic ducks, long-tailed ducks, etc.

The following examples are given to illustrate the present invention and should in no way be considered limiting to its scope. In the examples, the international CTFA nomenclature is used for naming the products.

EXAMPLE 1. - Preparation of the washing agent

The prepared washing agent has the following composition for 100 parts by weight:

Shampoo base

- <u>anionic surfactant</u>	<u>g</u>
- ammonium laurylsulfate (70%)	2.5
- magnesium laurylethersulfate (70%)	1.5
- disodium ricinoleamido MEA sulfosuccinate (40%)	0.5
- <u>amphoteric surfactant</u>	
- cocoamidopropylhydroxysultaine (50%)	0.75
- disodium cocoamphodiacetate (50%)	1.0

Wetting agent

- dioctyl sodium sulfosuccinate (70%)	25
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Conditioner

-cyclic silicone and dimethyl gum	0.5
-hydroxypropyl guar hydroxypropyltrimonium chloride	0.2

Solvent

- ethanol (95%)	7
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Other

- Na ₄ EDTA	0.05
- citric acid	0.5
- Steareth 100	0.25
- PEG 200 tallow glycerides	0.25
- perfume	1.5
- imidazolidinyl urea	0.1
- Kathon CG	0.06

Water Qsp 100 g

The operating method is as follows. Into a receiver are introduced the constituents of the shampoo base, citric acid (pH regulator) and water. The mixture is heated to 75°C. After homogenization, it is allowed to cool. In a first melting kettle, the Steareth 100 (thickener) is melted at about 70°C and the cyclic

silicone and the dimethyl gum (conditioner) are added. In a second melting kettle, at about 50°C, the PEG 200 tallow glycerides (thickener) and the perfume are mixed, then the hydroxypropylguar hydroxypropyltrimonium chloride (conditioner) is added. After homogenization, the content of the second melting kettle is introduced into the first. Then, the content of the first melting kettle is added to the receiver at 50-55°C. The dioctyl sodium sulfosuccinate and the ethanol are mixed and this mixture is added to the receiver, at about 30°C. Finally, the imidazolidinyl urea and Kathon CG (both preservatives) are added.

EXAMPLE 2. - Preparation of the emollient, stain-removing agent

- ethylhexyl cocoate 50
- dioctyl sodium sulfosuccinate (70%) 50

The emollient, stain-removing agent is obtained by simply mixing the constituents.

EXAMPLE 3. - Toxicity of the washing agent

Acute toxicity tests (single dose) are carried out on rats by the oral route. The product ingested is pure.

Eye-tolerance tests are carried out by the so-called primary eye irritation method in the rabbit and by the EYTEX method (in vitro test).

The results are as follows:

- acute toxicity..... 5 ml/kg is a non-lethal, non-toxic dose;
the lethal dose is not defined, clearly higher than 5 ml/kg
- ocular tolerance:
- primary irritation
in the rabbit..... product very weakly irritant
- EYTEX..... weakly irritant

EXAMPLE 4. - Toxicity of emollient stain-removing agent

The tests are carried out in the same way as above. The results are as follows:

- acute toxicity..... 2 ml/kg is a non-lethal, non-toxic dose;
5 ml/kg is a dose that causes 20% mortality and digestive problems;
The lethal dose is higher than 5 ml/kg
- ocular tolerance:
- primary irritation
in the rabbit..... product very weakly irritant
- EYTEX..... weakly irritant

EXAMPLE 5. - Efficacy of the washing and pre-washing agents

The tests are effectuated with feathers to test the various products in the method for cleaning birds.

The feather used is a duck feather. In order to approach actual conditions, a packet of 5 feathers is used. Moreover, the crude is left to dry for 11 days. The agitation used is a mechanical agitation (Heydolph agitator).

The operating method used is as follows: The feathers, after weighing, are soaked in crude, here an Arabian Light BAL 150, for several seconds. They are then left to drip before being reweighed. The petroleum is allowed to harden for 10 days. The feathers, fixed on the agitator, are agitated for a time expressed in minutes in the aqueous composition containing a cleaning product at the concentration C expressed in % by weight, at the temperature T expressed in °C. An analogous procedure is used for the rinsing in clear water.

The estimation of the residual quantity of the crude is obtained by the method of chloroform extraction of the BAL 150 and assay of the hydrocarbon by colorimetry ($\lambda = 580 \text{ nm}$).

The operating conditions used are the following, for a packet of 5 feathers on which the crude has dried for 10 days:

- duration of washing	10 min
- temperature of washing	40 °C
- duration of rinsing	10 min
- temperature of rinsing	20 °C
- speed of agitation	50 rpm

Various compositions are tested. DOSS is available in an ethyl alcohol composition at a concentration of 70%; it is then diluted to form an aqueous composition with 1% active compound. The foaming washing agent, or shampoo, corresponds to the composition given in Example 1, in which DOSS is absent. The products are used at a concentration of 1% active components.

Effect of the wetting agent on the efficacy of cleaning

<u>Products</u>	<u>Disappearance of hydrocarbons, %</u>
DOSS	39.3
DOSS in pre-wash + shampoo	61.5
DOSS + shampoo	72.5
Shampoo	26.4

It is observed that two formulations lead to good results. The first consists of applying the wetting agent then the shampoo; the second consists of the mixture of wetting agent plus shampoo, that is, the washing agent according to the present invention. The solvent is supplied by the DOSS in solution in an alcohol.

Checking of an emollient, stain-removing agent

In order to soften hydrocarbons dried for too long on birds' feathers, the pre-washing agent according to the present invention which should facilitate the washing of the bird with the shampoo, is tested.

The use of the pre-washing agent or pre-shampoo makes it possible to eliminate 68% of the crude dried on to a packet of feathers. The results are shown in the table below. The emollient agent is applied by spraying; it is left to act for 10 min. The washing conditions are the same as those indicated previously for the test of the effect of the wetting agent on the efficacy of the shampoo.

<u>Products</u>	<u>Disappearance of hydrocarbons, %</u>
Emollient stain-removing agent	50.0
Shampoo/DOSS	59.5
Emollient agent as prewash + shampoo/DOSS	67.8
Emollient agent + shampoo/DOSS mixed	34.0

It is observed that the mixture of all the components is inactive. It is also observed that the emollient agent alone already has an elevated efficacy, and that the action of the emollient agent before the washing increases the efficacy of the washing agent.

Tests carried out in situ on living birds show that the use of the products according to the present invention permits almost dry birds to be obtained after washing.

CLAIMS

1. Washing agent comprising, by weight based on the total weight of the agent:
 - (a) from 1 to 10% of a foaming washing agent;
 - (b) from 5 to 50% of a wetting agent;
 - (c) from 0 to 25% of a water-miscible solvent;
 - (d) the balance being constituted of water and possibly additives.
2. Washing agent according to claim 1 comprising, by weight based on the total weight of the agent:
 - (a) from 2 to 5% of a foaming washing agent;
 - (b) from 15 to 20% of a wetting agent;
 - (c) from 10 to 20% of a water-miscible solvent;
 - (d) the balance being constituted of water and possibly additives.
3. Washing agent in accordance with claim 1 or 2, in which the foaming washing agent is constituted by weight of
 - (a) 60 to 95% anionic surfactant;
 - (b) 40 to 5% amphoteric surfactant.
4. Washing agent in accordance with claim 3 in which, in the foaming washing agent, the anionic surfactant is ammonium laurylsulfate and/or magnesium laurylethersulfate and the amphoteric surfactant is a sulfobetaine and/or cocoamphodiacetate.
5. Washing agent in accordance with any one of the claims 1 to 4, in which the wetting agent is dioctyl sodium sulfosuccinate.
6. Washing agent in accordance with any one of the claims 1 to 5, in which the solvent is a water-miscible solvent of fatty substances.
7. Washing agent in accordance with claim 6, in which the fatty substance solvent is an alcohol.
8. Washing agent in accordance with any one of the claims 1 to 7, also containing a conditioner in a quantity of 0.1 to 5% by weight relative to the weight of the agent.
9. Washing agent in accordance with claim 8, in which the conditioning agent is constituted of:
 - (a) 20 to 50% by weight of a cationic polymer; and
 - (b) 80 to 50% by weight of a silicone.
10. Washing agent in accordance with claim 9 in which, in the conditioning agent, the cationic polymer is a quaternized guar gum and the silicone is a silicone gum in solution in a cyclic silicone oil.
11. Aqueous composition containing, by weight relative to the total weight of the aqueous composition, from 0.1 to 20% of a washing agent in accordance with any one of the claims 1 to 10.

12. Method of cleaning soiled animals, the said procedure including the following steps:

- a) a washing agent in accordance with any one of the claims 1 to 10 is applied to the animal;
- b) it is allowed to act for 1 to 60 minutes;
- c) if necessary, steps a) and b) are repeated;
- d) the animal is rinsed and if necessary dried.

13. Method of cleaning animals in accordance with claim 12 in which, during step a), the washing agent is in an aqueous composition, representing from 0.1 to 20% by weight of the composition.

14. Method of cleaning animals in accordance with claim 12 or 13 in which, during step a), the composition is applied to the animal by immersion of the animal in the composition.

15. Method of cleaning in accordance with any one of the claims 12 to 14 in which, during step b), it is left to act for 5 to 20 minutes.

16. Method of cleaning in accordance with any one of the claims 12 to 15 in which, during step b), the animal is subjected to a mechanical action.

17. Method in accordance with any one of the claims 12 to 16 in which, during step c), steps a) and b) are repeated twice.

18. Method of cleaning soiled animals, the said method including the following steps:

- a) a wetting agent is applied to the animal;
- b) it is left to act for 1 to 60 minutes;
- c) a foaming, washing agent is applied to the animal;
- d) it is left to act for 1 to 60 minutes;
- e) steps a) to d) are if necessary repeated;
- f) the animals is rinsed and if necessary dried.

19. Method in accordance with any one of the claims 12 to 18, carried out at a temperature of 20 to 45°C.

20. Method in accordance with any one of the claims 12 to 19, carried out on animals soiled by hydrocarbons.

21. Emollient, stain-removing agent containing, by weight based on the total weight of the agent:

- (a) from 10 to 90% of a fatty acid ester;
- (b) from 90 to 10% of a wetting agent.

22. Emollient and stain-removing agent in accordance with claim 21 containing, by weight based on the total weight of the agent:

- (a) from 30 to 70% of a fatty acid ester;
- (b) from 70 to 30% of a wetting agent.

23. Emollient and stain-removing agent in accordance with claim 21 or 22, in which the fatty acid ester is ethylhexyl cocoate.

24. Emollient and stain-removing agent in accordance with claim 21 to 23, in which the wetting agent is sodium dioctylsulfosuccinate.

25. Method of softening or removing concentrated sludges of chemical substances on animals, including the following steps:

- a) an emollient and stain-removing agent according to any one of the claims 21 to 24 is applied to the animal;
- b) it is left to act for at least 5 minutes;
- c) the animal is rinsed;
- d) if necessary, steps a) and b) are repeated;
- e) if necessary, the animal is dried.

26. Method in accordance with claim 25, in which during step a), the emollient agent is applied to the animal by spraying.

27. Method in accordance with claim 25 or 26, in which it is left to act, during step b), for 5 to 30 minutes.

28. Method in accordance with claim 25 or 26, in which it is left to act, during step b), for 1 to 5 hours.

29. Method of cleaning soiled animals, the said method including the following steps:

- a) an emollient, stain-removing agent in accordance with any one of the claims 21 to 24 is applied to the animal;
- b) it is left to act for at least 5 minutes;
- c) a washing agent in accordance with any one of the claims 1 to 10 is applied to the animal;
- d) it is left to act for 1 to 60 minutes;
- e) if necessary, steps a) to d) are repeated;
- f) the animal is rinsed and if necessary dried.

30. Method in accordance with claim 29, used on animals soiled by hydrocarbons.

31. Use of a washing agent in accordance with any one of the claims 1 to 10 for cleaning soiled animals, preferably birds soiled by hydrocarbons.

32. Use of an emollient, stain-removing agent in accordance with any one of the claims 21 to 24 for the removal of concentrated sludges of chemical substances on animals, preferably hydrocarbon sludges on birds.